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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,945	10/12/2001	Pascal Pineau	1296-01	1749

22469 7590 06/18/2003

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EXAMINER

MILLER, MARTIN E

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 06/18/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/976,945

Applicant(s)

PINEAU, PASCAL

Examiner

Martin Miller

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 6,9 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION***Response to Amendment***

1. Applicant's amendment of claims 1, 2 and 5 filed March 26, 2003 has been entered into the file. Claims 6, 9, 10 have been canceled. Since claims 9 and 10 have been canceled the potential objection under 35 CFR 1.75 is mooted.
2. Applicant's amendments to claims 1 and 5 overcome the 35 U.S.C. 112, second paragraph rejection of claims 1 and 5. As per claim 4, Applicant's concurrence with the examiner's interpretation of the parenthetical overcomes the 35 U.S.C. 112, second paragraph rejection of that claim.

Response to Arguments

3. Applicant's arguments filed March 26, 2003 have been fully considered but they are not persuasive. Applicant argues that Collet-Billon does not teach "any 2D sectional plan", but in sharp contrast teaches, "allowing only visualization of some pre-recorded 2D sectional planes." However, from the claim language, "means for acquiring and echographic image and generating a digital image formed by a three-dimensional matrix from echographic sectional planes of said echographic image", some storage of data must occur. In fact, paragraph 0017 of the specification states, "the standard video output (preferably S-VHS) and enables recording of the echographic data obtained by scanning of the zone to be recorded". Additionally, paragraph 0021 states, "The acquired volumic [sic] data are stored in the acquisition station in the form of a data file which can be transferred to the expert center..." So Applicant also operates on prerecorded 2D sectional planes. However, Collet-Billon states that his system can be used for real-time expert analysis (col. 5, ll. 48-60) and that any portion of the data can be reviewed (col. 8,

Art Unit: 2623

ll. 5-10). Therefore, Collet-Billon does teach that any echographic (tomographic) section can be viewed by the expert. Applicant also argues several features that are newly presented in the instant amendment that will be addressed below in this Office Action.

4. Applicant argues that Zuluaf does not disclose, teach or suggest means for transmitting between an examining workstation and a diagnostic workstation control data allowing for selection on each workstation". However, Zuluaf teaches (col. 4, ll. 15-25) that the present video processor needs to be manually stopped by the examining site radiological professional in response to a request from the remote radiologist or, alternatively, the remote radiologist can control the freeze frame option. The first or manual method indicates that that the video data would also be "freeze framed" at the examining workstation. Additionally, Collet-Billon teaches that the host 3D echographic devices have displays (fig. 1, element 2). Finally, Collet-Billon teaches the ability to manipulate images that are stored in memory at the examining unit, so control data must be transmitted between the diagnostic and acquisition workstations.

Claim Objections

5. Claim 2 is objected to because of the following informalities: a misspelling in line 9 of claim 9 the word "plan" is used and this should more than likely be -- plane--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2623

7. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim refers to "the system according to Claim 1, wherein said workstation comprises..." however, there are two workstations, acquisition and diagnostic, so the claim is indefinite. From the context of the claim it appears that "said workstation" should be -- said acquisition workstation--, which will be the interpretation given by the examiner.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 1, 3-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collet-Billon, US 5540229 and Zulauf, US 5482043.

As per claim 1, Collet-Billon teaches:

an acquisition workstation (fig. 3, 31) comprising:

means for acquiring an echographic image (fig. 3, 33) and generating a digital image formed by a three-dimensional matrix from echographic sectional planes of said echographic image (fig. 3, 39, col. 4, ll. 54-56, col. 5, ll. 33-35);

means for transmitting said digital image (col. 4, ll. 56-58, col. 5, ll. 39-40);

a diagnostic workstation (fig. 3, 34) comprising:

a probe (fig. 3, 58) and means for referencing positions on a dummy (col. 7, ll. 20-25 or 28-33);

Art Unit: 2623

means for performing a virtual echographic examination (col. 7, ll. 25-30) of said digital image with said probe to select any two-dimensional sectional plan from said digital image (col. 5, ll. 53-58, col. 6, ll. 1-12, 53-58, col. 7, ll. 57-64, col. 8, ll. 5-10);

Collet-Billon does not teach that a videoconferencing capability is part of the system. Zulauf teaches transmitting two-dimensional ultrasonic imagery to a remote location (col. 5, ll. 57-67). Zulauf goes on to teach:

means for receiving expert assessment (col. 2, ll. 11-15, 54-56, col. 3, ll. 33-37, col. 4, ll. 17-20) results combining videoconference ability (col. 2, ll. 54-56, col. 4, ll. 40-45, col. 5, ll. 38-42, 45-51)

means for transmitting control data between said acquisition workstation and said diagnostic workstation, said control data (freeze frame, col. 4, ll. 20-25)) allowing the user to select, on each workstation, a sectional plan to be visualized. Zulauf teaches the present video processor needs to be manually stopped by the examining site radiological professional in response to a request from the remote radiologist or, alternatively, the remote radiologist can control the freeze frame option. The first or manual method indicates that the video data would also be "freeze framed" at the examining workstation.

It would have been obvious to one of ordinary skill in the art to utilize the three dimensional image processing capabilities of Collet-Billon in the image diagnostic and remote videoconferencing system of Zulauf to provide rural community and smaller hospitals access to the services of full-time radiological professional and to be able to conduct such examinations with the remote site radiologist viewing, interpreting and controlling the examination. Such a system allows the patient to sit for one examination

Art Unit: 2623

and allows for the possibility of performing alternative procedures, if required (col. 5, ll. 57-58). Furthermore, Zulauf teaches that his video system can be upgraded for use with different video formats and line rates (col. 6, ll. 16-20).

As per claim 3, Collet-Billon teaches:

a central unit (figure 1, central processing unit),

a display screen (fig. 1, element 6),

a high-definition digitalization card enabling acquisition of an echograph video signal (a central card 11, col. 4, l. 52, col. 6, ll. 66-67),

a three-dimensional position sensor giving spatial positions of the echographic probe (col. 6, ll. 10-14),

But Collet-Billon does not teach the videoconference means, however, Zulauf teaches:

videoconference means integrating an electronic card and two-way video input (col. 5, ll. 44-50), color camera (well known), a microphone and a headset (telephone headset obviously incorporates a microphone, fig. 1, element 80),

means for connecting to a communication network and echograph (col. 4, ll. 40-44, col. 6, ll. 6-16), and

means for temporarily storing data (col. 6, ll. 16-20 or Collet-Billon, col. 2, ll. 49-55) acquired from the echograph until transmitted to a selected recipient then exploited in the videoconference. Zulauf obviously understands that the speed of data transmission is dictated by the line rate of the communications system and therefore, some data buffering may be required (col. 6, ll. 15-20).

As per claim 4, Collet-Billon teaches:

Art Unit: 2623

performance of a virtual echographic examination (display of sectional planes from a three-dimensional matrix) (col. 2, ll. 8-12, 60-63). **NOTE:** The examiner in interpreting the parenthetical to be the definition of the virtual echographic examination.

But Collet-Billon does not teach the transmission of the examination data.

However, Zulauf teaches:

the system of claim 1 adapted to receive a file (results of exam) for expert assessment (col. 3, ll. 33-36),

transmission of an electronic report and (col. 4, ll. 15-25) hosting a session of receiving expert assessment combining videoconference and remote manipulation (selective viewing, col. 3, ll. 30-35) of the three-dimensional (Collet-Billon teaches the 3D data, col. 2, ll. 55-60, col. 5, ll. 40-44) data.

As per claim 5, it recites substantially the same limitations as claim 3 above and analogous remarks apply, except for the following limitations:

a color camera (well known in the videoconferencing art)

color ink-jet printer (apparent to one of ordinary skill in the art that a color ink-jet printer can be connected to a workstation Collet-Billon, figure 3, element 34) or PC (Collet-Billon, figure 1, element 4).

As per claim 7, Collet-Billon teaches:

means for acquisition of a three-dimensional image (3D probe, fig. 3, element 33);

means for processing said three-dimensional image in a system according to Claim 1 (see rejection of claim 1);
and means for linking multiple physical devices (VME bus, col. 4, ll. 56-60).

Art Unit: 2623

10. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collet-Billon and Zulauf as applied to claim 1 above, and further in view of Wofford, US 5542003.

As per claim 2, Collet-Billon teaches:

means for acquisition of a three-dimensional image (fig. 3, 33);

means for processing said three-dimensional image (fig. 3, 35) in the system

according to Claim 1 (see rejection of claim 1 above),

However, Collet-Billon does not teach the following, but Zulauf teaches:

wherein said workstation comprises:

means for communicating with said diagnostic workstation to display at the same time on the screen of said diagnostic workstation and on the display of said workstation sectional planes selected by the expert performing in real time a virtual echographic probe from the three-dimensional matrix available on the acquisition and diagnostic workstation, said transmitting from one workstation to another station only said control data allowing for selection of the sectional plan to be visualized (col. 4, ll. 15-25). Zuluaf teaches that the present video processor needs to be manually stopped by the examining site radiological professional in response to a request from the remote radiologist or, alternatively, the remote radiologist can control the freeze frame option. The first or manual method indicates that that the video data would also be "freeze framed" at the examining workstation. Alternatively, Collet-Billon teaches that the host 3D echographic devices have displays (fig. 1, element 2). Finally, Collet-Billon teaches the ability to manipulate images that are stored in memory at the examining unit, so control data must be transmitted between the diagnostic and acquisition workstations.

Art Unit: 2623

But neither Collet-Billon nor Zulauf teaches that the control data is recorded.

However, Wofford teaches:

means for recording said control data (region of interest rectangle parameters, col. 11, ll. 33-38).

It would have been obvious to one of ordinary skill in the art to use the region of interest parameter saving feature taught by Wood with the imaging system of Collet-Billon and Zulauf to reduce the range of pixel data that must be retained and centers the display range around the values which comprise most of the data as selected by Collet-Billon's user when selecting sections to be presented on the monitor via Cartesian coordinates (col. 6, ll. 1-5).

As per claim 8, Collet-Billon teaches:

a central unit (figure 1, central processing unit),

a display screen (fig. 1, element 6),

a high-definition digitalization card enabling acquisition of an echograph video signal (a central card 11, col. 4, l. 52, col. 6, ll. 66-67),

a three-dimensional position sensor giving spatial positions of the echographic probe (col. 6, ll. 10-14),

But Collet-Billon does not teach the videoconference means, however, Zulauf teaches:

videoconference means integrating an electronic card and two-way video input (col. 5, ll. 44-50), color camera (well known), a microphone and a headset (telephone headset obviously incorporates a microphone, fig. 1, element 80),

Art Unit: 2623

means for connecting to a communication network and echograph (col. 4, ll. 40-44, col. 6, ll. 6-16), and

means for temporarily storing data (col. 6, ll. 16-20 or Collet-Billon, col. 2, ll. 49-55) acquired from the echograph until transmitted to a selected recipient then exploited in the videoconference. Zuluaf obviously understands that the speed of data transmission is dictated by the line rate of the communications system and therefore, some data buffering may be required (col. 6, ll. 15-20).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following U.S. patent(s) refer(s) to storing imaging systems and storing reduced data sets: Delean, 5907640 and Novik, 5432871. The following U.S. patent(s) refer(s) to medical imaging systems and networking: Fenster, 5842473 and Bursell et al., 5993001.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the


Art Unit: 2623


advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Miller whose telephone number is (703) 306-9134. The examiner can normally be reached on Monday-Friday, 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.


mem
June 11, 2003


AMELIA M. AU
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